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EXAMINER	
WONG, WARNER	
ART UNIT	**PAPER NUMBER**
2668	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/783,134	PARK ET AL.	
	Examiner	Art Unit	
	Warner Wong	2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5,9-14,18-22,25,29-34,38-43,45 and 46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,9-11,18-22,25,29-31 and 38-43* is/are rejected.

7)☒ Claim(s) *12-14,32-34,45 and 46* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The indicated allowability of claims 1, 2, 5, 9-14, 18-22, 25, 29-34, 38-43 are withdrawn in view of the newly discovered reference(s) to Gibson (US 6,445,717). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 5, 38, 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson (6,445,717) in view of Nakagaki (5,657,316).

Regarding claim 1, Gibson describes a wireless data transmitting method comprising:

(a) when a length of a collection of data in an application layer is longer than a length of a payload of a protocol, dividing the collection of data into a plurality of protocol units, and transmitting the protocol units of data after adding length information and location information of the data divided into the protocol units (fig. 1, #8 & 10; fig. 2, #38 and col. 4, lines 35-41, where the upper layer information blocks are divided into packets [= protocol units] and adding headers with fields of payload length and sequence number [= location information]).

(b) determining whether or not a loss of data has occurred, by referring to the length and location information of data divided into the protocol units (col. 4, lines 52-60, where the packet are ordered to detect missing packets).

transmitting to an upper layer the re-formed data and signaling to the upper layer an indication of missing data (col. 4, lines 59-67 & col. 5,lines 1-3, where reformed data in chucks are received by the upper layer comprising a skip in the ordering of packets, indicating a loss of packets).

However, the method of Gibson lacks describing the insertion of blank data into a part corresponding to lost data to re-form the entire collection of data, wherein said blank data is generated by referring to the length and location information of data, which is added to a header of a preceding or succeeding protocol unit.

The invention of Nakagaki describes the insertion of blank data into a part corresponding to lost data to re-form the entire collection of data, wherein said blank data is generated by referring to the length and location information of data, which is added to a header of a preceding or succeeding protocol unit (fig. 3A&B, where individual dummy cells equaling to each of lost cells are inserted at corresponding locations of missing frame sequence numbers (location identifiers) based on the sequence number/location information at the existing packets' headers).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to include the determining of loss of data and inserting blank data of Nakagaki for in the transmission process of Gibson for the purpose of creating the original data length.

The motivation is that it prevents the transmission devices to be out of sequence/phase when packets comprising synchronization fields are lost (Nakagaki, col. 2, lines 31-32).

Regarding claim 2, Gibson further describes that the protocol is supported by a lower layer (fig. 1, #10,12, 14, where the protocol #8 which divides the data into packets communicates with (supported by) lower layers of #10, 12 & 14 for transmitting the packets).

Regarding claim 5, Gibson describes a wireless data receiving method wherein application data is divided into a plurality of predetermined protocol units, and a bit stream, in which length information and location information of data divided into the protocol units is added, is received (fig. 1 & col. 4, lines 35-41, where the transmission data streams comprising packets/protocol units are received by the receiver, each packet comprising a header with sequence number & packet payload length (fig. 2, #40, 48)), the wireless data receiving method comprising:

(a) receiving the predetermined protocol units in a predetermined sequence, checking whether or not data is lost by referring to the length and location information of data added to each of the predetermined protocol units, and signaling to the upper layer an indication of any lost data (col. 4, lines 52-60, where the packet/protocol units are ordered by the predetermined sequence numbers located at the header of each packet to detect lost/missing packets, and the upper layer checks any skips in the sequence numbers of the ordered packets as a signal of missing packets).

However, the method of Gibson lacks describing:

(b) when detecting a data loss of the protocol units, re-forming the collection of data by adding an amount of blank data equal to an amount of data lost, into a part from which the data was lost, and then transmitting the re-formed data to an upper layer, wherein said blank data is generated by referring to the length and location information of data which is added to a header of a preceding or succeeding protocol unit.

The invention of Nakagaki describes:

(b) when detecting a data loss of the protocol units, re-forming the collection of data by adding an amount of blank data equal to an amount of data lost, into a part from which the data was lost, and then transmitting the re-formed data to an upper layer, wherein said blank data is generated by referring to the length and location information of data which is added to a header of a preceding or succeeding protocol unit. (fig. 3A&B, where individual dummy cells equaling to each of lost cells are inserted at corresponding locations of missing frame sequence numbers (location identifiers) based on the sequence number/location information at the existing packets' headers).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to include the determining of loss of data and inserting blank data of Nakagaki into the transmission process of Gibson for the purpose of creating the original data length.

The motivation is that it prevents the transmission devices to be out of sequence/phase when packets comprising synchronization fields are lost (Nakagaki, col. 2, lines 31-32).

Regarding claim 38, Gibson describes an apparatus/system for transmitting and receiving wireless data, comprising:

a transmitting means for dividing a collection of data in an application layer into a plurality of protocol units, adding length information and location information of the data to a header of each unit and transmitting the protocol units (fig. 1, #8 & 10; fig. 2, #38 and col. 4, lines 35-41, where the upper layer information blocks are divided into packets [= protocol units] and adding headers with fields of payload length and sequence number [= location information]);

a receiving means for determining whether or not data included in the protocol units is lost, by referring to the length and location information of the data added to the header of each of the predetermined protocol units received from the transmitting means and signaling to an upper layer an indication of whether or any data is lost (col. 4, lines 52-60, where the packet/protocol units are ordered by the predetermined sequence numbers located at the header of each packet to detect lost/missing packets, and the upper layer checks any skips in the sequence numbers of the ordered packets as a signal of missing packets).

However, the method of Gibson lacks describing the re-forming of the collection of data by inserting blank data into any part from which data is lost.

The invention of Nakagaki describes the re-forming of the collection of data by inserting blank data into any part from which data is lost (fig. 3A&B, where individual dummy cells equaling to each of lost cells are inserted at corresponding locations based on the sequence number/location information at the existing packets' headers).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to include the determining of loss of data and inserting blank data of Nakagaki into the transmission process of Gibson for the purpose of creating the original data length.

The motivation is that it prevents the transmission devices to be out of sequence/phase when packets comprising synchronization fields are lost (Nakagaki, col. 2, lines 31-32).

Regarding claim 39, Gibson further describes that the plurality of protocol units is supported by a lower layer (fig. 1, #10,12, 14, where the protocol #8 which divides the data into packets communicates with (supported by) lower layers of #10, 12 & 14 for transmitting the packets).

Regarding claim 40, Gibson further describes:

a data determining unit for comparing a length of the collection of data in the application layer with a size of a payload (col. 4, lines 35-41, where it is implied that there is a data determining unit measuring the portion (comparing the length) of the chunk information blocks for segmentation);

a format processing unit for dividing the collection of data into a plurality of protocol units when the length of the application layer is longer than the length of the payload, and adding the length information and location information of the divided data to the header of each protocol unit (fig. 1, #8 & 10, and col. 4, lines 40-44, where the chunk information blocks are segmented/divided into packet payloads and each payload

is appended with a header with payload length and sequence number/location information fields, fig. 2, #40 & 48).

Regarding claim 41, Gibson further describes that the protocol is supported by a lower layer (fig. 1, #10,12, 14, where the protocol #8 which divides the data into packets communicates with (supported by) lower layers of #10, 12 & 14 for transmitting the packets).

Regarding claim 42, Gibson and Nakagaki combined further describes that the receiving means comprises:

a packet extracting unit for extracting header information and payload from each protocol unit while transmitting data received from the transmitting means to the upper layer (Gibson, fig. 1, & col. 4, lines 52-56, where packet extracting unit #22 receives and examines/extracts the header from payload of packets sent by the transmitter and forwards the data to the upper layers of the receiver #20);

a data processing unit for determining whether or not data included in the protocol units is lost, by referring to information on the length and location of data added to the header, and (Gibson, fig. 1 & col. 4, lines 52-60, where the data processing unit #60 checks any skips in the sequence numbers (= location information) residing in the packet headers of the ordered packets as a signal of missing packets);

re-forming the whole collection of data by inserting blank data into any part from which data is determined to be lost (Nakagaki, fig. 3A&B, where individual dummy cells equaling to each of lost cells are inserted at corresponding locations based on the sequence number/location information at the existing packets' headers).

Regarding claim 43, Gibson and Nakagaki combined further describes that the receiving means comprises:

data added to the header is extracted by the packet extracting unit (fig. 1, & col. 4, lines 52-56, where packet extracting #22 receives and examines/extracts the contents of the packet headers);

3. Claims 9-11 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson in view of Nakagaki as applied to claims 1, 2 and 5 above, and further in view of Puuskari (6,728,208).

Regarding claims 9-11, the combined method of Gibson and Nakagaki lack describing: when data in the first protocol unit of the plurality of protocol units is lost, not transmitting all of the protocol units to the upper layer.

The invention of Puuskari discloses: when data in the first protocol unit of the plurality of protocol units is lost, not transmitting all of the protocol units to the upper layer (col. 4, lines 51-54, where packets are protocol units and the real-time (first) packets are dropped/not transmitted to [the upper layer of] the receiver).

It would have been obvious to one with ordinary skill in the at the time of invention by applicant not to retransmit the (first) data packets lost in transmission as per Puuskari for the combined methods of Gibson and Nakagaki.

The motivation is that it maintains a transfer of real-time information, where previous information being retransferred may be obsolete (Puuskari, col. 4,lines 53-54).

Regarding claims 18-20, the combined method of Gibson and Nakagaki lack describing: when the loss of data from the protocol units is determined, determining whether or not to transmit the data according to a characteristic of an application layer.

The invention of Puuskari discloses:

when the loss of data from the protocol units is determined, determining whether or not to transmit the data according to a characteristic of an application layer (col. 4, lines 51-54, where packets are protocol units which may or may not be designated for re-transmission based on the type/characteristics of the application-level/layer, e.g. real-time or non-real-time).

It would have been obvious to one with ordinary skill in the at the time of invention by applicant not to determine whether or not to retransmit data packets lost in transmission as per Puuskari for the combined methods of Gibson and Nakagaki.

The motivation is that it maintains a transfer of real-time information for real-time applications, where previous information being retransferred may be obsolete (Puuskari, col. 4,lines 53-54).

4. **Claims 21, 22 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson in view of Nakagaki as applied to claims 1, 2, 5 above, and further in view of Terho (6,507,590).

The combined method of Gibson and Nakagaki lacks describing that the protocol used is a Radio Link Protocol (RLP).

The invention of Terho discloses that the protocol used is a Radio Link Protocol (RLP) (col. 8, lines 5-15).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use RLP protocol of Terho for the combined method of Gibson and Nakagaki.

The motivation is that this protocol allows a mobile telephone system to employ a standardized manufacturer independent digital radio telephone network to provide data transfer (Terho, col. 2, lines 19-22).

5. **Claims 29-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson in view of Nakagaki and Puuskari as applied to claims 9-11 above, and further in view of Terho.

The combined method of Gibson, Nakagaki and Puuskari lacks describing that the protocol used is a Radio Link Protocol (RLP) (col. 8, lines 5-15).

The invention of Terho discloses that the protocol used is a Radio Link Protocol (RLP) (col. 8, lines 5-15).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to use RLP protocol of Terho for the combined method of Gibson, Nakagaki and Puuskari.

The motivation is that this protocol allows a mobile telephone system to employ a standardized manufacturer independent digital radio telephone network to provide data transfer (Terho, col. 2, lines 19-22).

Allowable Subject Matter

6. Claims 12-14, 32-34, 45 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1-2,5, 9-14, 18-22, 25, 29-34, 38-43, 45-46 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 5:30AM - 2:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Warner Wong
Examiner
Art Unit 2668

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